



Contents lists available at ScienceDirect

## Journal of Forensic and Legal Medicine

journal homepage: [www.elsevier.com/locate/jflm](http://www.elsevier.com/locate/jflm)

## Alcimededes

Clubbers up and down the country will be throwing some serious shapes in memory of the scientist who introduced 3,4-methylenedioxy-N-methylamphetamine (MDMA, *Ecstasy*, *E or XTC*, *to you and me*) to the scientific community. Dr Alexander “Sasha” Shulgin died in May 2014 in California, aged 88.<sup>1</sup> He was responsible for having drawn Ecstasy to the attention of Psychologists and Doctors in the 1970s and was therefore often awarded the rather dubious title of “The Godfather of Ecstasy.”

Although MDMA had been invented at Merck laboratories in 1912 by the German chemist Anton Köllisch,<sup>2</sup> it had laid dormant for several decades. This might have been largely due to Köllisch's death in 1916, when he had been fighting for Germany on the Front Line, and he was therefore denied the opportunity to develop his discovery. Shulgin managed to resurrect the profile of Ecstasy over fifty years later with a series of experiments, including self-experimentation and trials involving his wife and friends, where the stimulant effects of this drug were documented on a personal rating scale. Shulgin was convinced of its possible therapeutic benefits by raising its user's mood and, although Ecstasy has been trialled more recently as a possible therapeutic agent for depression and PTSD, its role within the world of medicine remains elusive. Its use still predominantly resides within the clubs and rave scene of teenagers and twenty-somethings, where it shares the stage with other illegal heavy-hitters such as heroin and cocaine, all of which proudly boast their UK Class A status.

Dr Shulgin was by no means the first research scientist to test experimental substances on himself. All in the name of science, of course, rather than for personal pleasure. For instance, Dr Albert Hofmann, a research scientist at Sandoz famously tested Lysergic Acid Diethylamide (LSD) on himself in April 1943, before riding home on his bike.<sup>3</sup> He had noticed three days beforehand that licking his fingers after they had been in contact with this fungal derivative would cause him to have vivid sensory hallucinations. His description of kaleidoscopic colours and shapes, as well as trees and fountains reaching out to him as he cycled home, somehow sounded more credible given that he was a research scientist who had volunteered himself as a guinea pig to further science, and who was keeping himself fit by cycling (*even though his use of a bike was largely due to wartime restrictions on car use.*) April 19th is now celebrated by pharmaceutical enthusiasts across the globe as “Bicycle Day,” in memory of Dr Hofmann's trip home. Presumably such celebrations involve the partaking of one or two illegal substances that would make balancing on a bike a tad tricky.

Recent figures from the Ministry of Justice have suggested that conviction rates in England and Wales for rape, indecent assault and child sexual abuse cases have dropped by 6% to 55% in the past

year.<sup>4</sup> The Director of Public Prosecutions, Ms Alison Saunders, has announced a “National Rape Action Plan” headed by the Crown Prosecution Service (CPS) and Association of Chief Police Officers (ACPO), to address these figures with a view to drafting guidelines on how these statistics could be improved. Possibilities include the judge offering guidance to the jury at the start of the trial rather than at the end, and advising the jury on how to avoid “unconscious bias” against the alleged victim, for instance, on whether she/he had been drinking, what the relationship was with the alleged offender, and what the alleged victim was wearing.

England's King Richard III seems to have divided opinion over the years. Shakespeare enthusiasts dismiss him as an evil, deformed monarch who grovelled pathetically in battle in 1485, trying to swap his country for a horse. However, many of Dickie's fans counter-argue that he was a nice guy who died at the tender age of 32 fighting for England. So wise, so young, they say, do never live long, especially when you're leading an army in a muddy field weighed down by a shed-load of armour. They claim that his negative portrayal in later years was from a Tudor propaganda machine fixed in overdrive and intent on giving him a bad press, and was therefore simply a thing devised by the enemy.

Ever since Richard was discovered buried rather unceremoniously under a Leicester car park in 2012 (and confirmed as such in early 2013), there has been much scientific research on his remains, as well as debate as to where to re-bury him. However, a recent computer-generated study of his skeleton was published in the *Lancet*<sup>5</sup> and has established that, although Richard had some degree of scoliosis, with his right shoulder higher than the left, he would have been able to easily compensate for this minor variation by altering his stature, and wearing suitably tailored clothes and modified armour.

Who knows: had he also thrown in some of his fancy clothes and armoury into the “Horse/Kingdom” swap, things might have turned out a whole lot different. He might have got away with swapping Scarborough for a trusty steed, rather than risking the whole of England.

In the UK, the Ministry of Justice's plan to roll out lie detectors for the management of sex offenders in the community is set to get underway. Following on from a successful pilot scheme led by Professor Don Grubin of Newcastle University, probation officers will be trained over a 12 week period in polygraph techniques and interpretation.<sup>6</sup> It is anticipated that the roll-out of compulsory testing of sex offenders will commence in October 2014. The pilot scheme demonstrated that sex offenders were twice as likely to

disclose significant information that might indicate a risk of re-offending, when faced with the prospect of undergoing polygraph testing, even if the test itself was not performed.

Rather interestingly, the Ministry of Justice's announcement comes on the heels of Freedom of Information requests published in March 2014 that 24 councils will be using Voice Risk Analysis (VRA) software and/or lie detectors in trying to target benefit cheats.<sup>7</sup> Only time will tell as to which other areas of the criminal justice system will start making use of polygraphs.

A December 2013 report from the Office for National Statistics has suggested that approximately one in three babies born in the UK in 2013 will reach the age of 100 not out.<sup>8</sup> Currently, there are approximately 14,000 centenarians in the UK, and this figure is projected to rise to 110,000 by 2037. If health and wealth are guaranteed, this is a welcome development for the individual, although greater demands on the world's resources will inevitably follow from such over-population.

More to the point, it appears that increases in human life expectancy are a worldwide trend, with many of the greatest improvements occurring in populations of “developing” countries.<sup>9</sup> The World Health Organisation has recently reported that the longest-living women are in Japan: a girl born in 2012 can expect to live to 87 years, though there are ten other countries where a girl can expect to live on average to 84 years or older. Many of the biggest improvements (albeit relative) are in African countries including Rwanda, Ethiopia, Cambodia and Liberia. Life expectancy in Liberia has increased from 42 years in 1990 to 62 years in 2012. Explanations for improved life expectancy include reduced infant mortality and reductions in smoking-related conditions such as cardiac and cerebrovascular disease.

Meanwhile, June 2014 saw the passing of the world's oldest man, Mr Alexander Imich.<sup>10</sup> He lived in New York and was 111. (*This has nothing to do with the prehistoric joke about him being ill.*) Mr Imich was born in Poland in February 1903, 10 months before the Wright brothers took to the skies at Kitty Hawk, North Carolina and 23 years before the first public demonstration of television by John Logie Baird. He left Poland in 1939 following the Nazi invasion, and ended up living in the USA in 1952, where he worked as a chemist and “parapsychologist”, although he had earned himself a PhD in Zoology in the 1920s in Krakow.

Interestingly, no man has ever (verifiably) lived older than 116 (Jiroemon Kimura, who died in 2013 aged 116 yrs and 54 days)<sup>11</sup> and the list of centenarians and supercentenarians (i.e. people over the age of 110) is disproportionately weighted towards Japan

and women. However, the oldest verified woman to have lived was France's Jeanne Calment, who died in 1997 when aged 122.<sup>11</sup> She might have lived even longer had she called an end to her 100 year affair with cigarettes that lasted until she was 117. It is rather ironic that she lived longer than the doctors who presumably advised her to give up smoking.

A study from Oxford, using population data from 1973 to 2009 from Sweden, has confirmed that suicide rates and early deaths are higher among people with schizophrenia, compared with the rest of the population.<sup>12</sup> Moreover, the rates of suicide appear to be growing, with three of the main risk factors identified as drug use, self harm and criminality. The study also noted that siblings with these risk factors but without schizophrenia were also at increased risk of suicide and early death. Identifying these factors is all very important, but knowing how to address them will be a monumental challenge.

## References

1. Alexander Shulgin – dead, Selby Jean. *The Independent*; June 2 2014. <http://www.independent.co.uk/news/people/alexander-shulgin-dead-godfather-of-ecstasy-and-pioneering-pharmacologist-dies-aged-88-9478223.html>.
2. Freudenmann RW. The origin of MDMA (ecstasy) revisited: the true story reconstructed from the original documents. *Addiction* 2006, Sep; **101**:1241–5.
3. Albert Hofmann (LSD Ganz Persönlich) by J. Ott. MAPS-Volume 6, Number 69, Summer 1969, p15.
4. CPS and police announce new measures to tackle rape. CPS website; 6th June 2014. [http://www.cps.gov.uk/news/latest\\_news/cps\\_and\\_police\\_announce\\_new\\_measures\\_to\\_tackle\\_rape/](http://www.cps.gov.uk/news/latest_news/cps_and_police_announce_new_measures_to_tackle_rape/).
5. The scoliosis of Richard III, last Plantagenet King of England: diagnosis and clinical significance. *Lancet* 30th May 2014.
6. Compulsory lie detector tests for serious sex offenders. GOV.UK website; 27th May 2014. <https://www.gov.uk/government/news/compulsory-lie-detector-tests-for-serious-sex-offenders>.
7. Ramesh R. Councils using controversial lie detector tests to catch benefit fraudsters. *The Guardian*; 10th March 2014. <http://www.theguardian.com/society/2014/mar/10/councils-use-lie-detector-tests-benefits-fraudsters>.
8. One third of babies born in 2013 are expected to live to 100. Office for National Statistics; 11th Dec 2013. <http://www.ons.gov.uk/ons/rel/lifetables/historic-and-projected-data-from-the-period-and-cohort-life-tables/2012-based/sty-babies-living-to-100.html>.
9. *World Health Statistics 2014*. World Health Organization; 15th May 2014. <http://www.who.int/mediacentre/news/releases/2014/world-health-statistics-2014/en/>.
10. *World's oldest man Dr. Alexander Imich dies aged 111*. Guinness World Records; 9th June 2014. <http://www.guinnessworldrecords.com/news/2014/6/dr-alexander-imich-confirmed-as-new-worlds-oldest-man-at-111-57253-57918/>.
11. Gerontology Research Group, official website 2014 <http://www.grg.org/>.
12. Fazel S, et al. Violent crime, suicide, and premature mortality in patients with schizophrenia and related disorders: a 38-year total population study in Sweden. *Lancet Psychiatry* 4th June 2014.